Discussion

This section contains a discussion of supporting Water Board policy with respect to low-threat closures.

Consistency with Water Board Policy

Low-threat site closure is consistent with policies and appeals decisions of the State Water Resources Control Board (State Water Board) and the S.F. Bay Water Board. This section contains a summary of the relevant policies and appeals decisions with respect to cleanup, beneficial use, and water resources protection.

State Water Board Resolution No. 68-16

Resolution No. 68-16 was adopted as part of State policy for water quality control and has also been incorporated into all of the State's regional water quality control plans. Resolution No. 68-16 states that:

Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

Resolution No. 68-16 restricts a reduction in the quality of groundwater or surface water even though such a reduction might still allow the protection of beneficial uses associated with the water prior to the quality reduction. The policy goal is to maintain high quality waters. The policy allows changes in water quality only if: (1) it is consistent with maximum benefit to the people of the State, (2) it does not unreasonably affect present and anticipated beneficial uses, and (3) it does not result in water quality less than that prescribed in water quality control plans or policies.

State Water Board Resolution No. 88-63

Resolution No. 88-63 specifies which groundwater and surface waters are considered to be suitable or potentially suitable for the beneficial use of municipal and domestic water supply (MUN). Regional water boards are to ensure that the MUN beneficial use is designated for protection wherever the use is presently being attained and shall make certain that any changes in beneficial use designation is consistent with all applicable regulations adopted by the U.S. Environmental Protection Agency. The policy allows Regional water boards some discretion in making MUN determinations and in de-designating the MUN beneficial use in some water bodies.

Specifically, it contains exception criteria for salinity (waters containing over 3,000 mg/l TDS) and sustained yield (groundwater yield less than 200 gal/day).

State Water Board Resolution No. 92-49

Resolution No. 92-49 was adopted by the State Water Board initially in 1992 and revised in 1996. The Resolution contains the policies and procedures pertaining to site investigations as well as cleanup and abatement activities related to all types of discharges. Regional Water Boards can determine cleanup and abatement schedules that are based on factors such as the degree of threat or impact on water quality and beneficial uses and the financial and technical resources available to the discharger. In approving cleanup levels less stringent than background, Resolution No. 92-49 requires that any such cleanup level shall consider criteria and conditions listed in Resolution No. 68-16 and Resolution No. 88-63.

Section III.G of Resolution No. 92-49 restates the three tests in Resolution No. 68-16 for allowing cleanup to end prior to attaining background concentrations. Specifically, Regional Water Boards shall "ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." Any such alternative cleanup level shall: (1) be consistent with the maximum benefit to the people of the state, (2) not unreasonably affect present and anticipated beneficial use of such water, and (3) not result in water quality less than that prescribed in water quality control plans and policies adopted by the State and Regional Water Boards.

This policy introduces the important concept of "substantial likelihood" to achieve cleanup standards within a "reasonable timeframe," considering what is "technologically and economically feasible."

State Water Board Appeals Decisions

State Water Board appeals decisions are based on appeals of Regional Water Board orders. In many cases the appeals were based on determinations by a local agency to not close a site on various grounds. Most appeals decisions provide guidance regarding interpretation of State Water Board policies. Following is a summary of three decisions that provide guidance specifically related to low-threat site closure.

Walker (1998)

The State Water Board's Walker decision (WQ 98-04 UST) applies the above policies to a specific leaking underground fuel tank (LUFT) site in Napa County and concludes that the site should be closed, despite the fact that relevant groundwater quality objectives are not met and probably won't be met for hundreds of years.

The Napa site involved petroleum fuel hydrocarbons released from underground fuel tanks. The tanks had been removed, along with contaminated soil in the tank excavation. Post-excavation sampling detected some fuel hydrocarbons in soil and groundwater in the immediate vicinity. Concentrations in several samples exceeded secondary MCLs (taste and odor) but not primary MCLs (human health). The discharger requested site closure but the local oversight agency (Napa County) requested additional investigation.

The State Water Board found that the site qualified as a low-risk site: adequate site investigation, adequate cleanup, no nearby supply wells, residual pollutants pose no threat to human health or safety, and residual pollutants do not adversely affect current or probable future beneficial uses of water.

Furthermore, the State Water Board found that the three tests in Resolution No. 68-16 were met in this case: the level of cleanup is consistent with the maximum benefit to the people of the state and applicable water quality objectives will be met within a reasonable time. On the *"maximum benefit"* test, the State Water Board considered the implications of cleaning up this and all other sites to background and concluded that this would result in a large volume of soil excavation, which would greatly impact already limited landfill space statewide. On the *"reasonable time"* test, the State Water Board referred to section III.A of Resolution 92-49, citing this as the basis for closing a site where requisite levels of water quality have not yet been met, but will be attained within a reasonable period. The decision says that in this case the reasonable period may be several hundred years, given the low likelihood of beneficial use of the onsite shallow groundwater and the conceptual site model (e.g. shallow isolated groundwater, low-permeability soils, lack of nearby wells, potential for continued chemical degradation, etc.).

Complete details can be found at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/wqo98.shtml

Texaco (1998)

The State Water Board's Texaco decision (WQ 98-08 UST) applies the above policies to a specific LUFT site in Coachella and concludes that the site should be closed, despite the fact that relevant groundwater quality objectives were not met at the time. The key findings of this decision relate to interpretation of Resolution No. 68-16 and suggest that the statewide consequences of requiring immediate and complete cleanup (e.g., costs, landfill impacts, etc.) can and should be considered.

Complete details can be found at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/wqo98.shtml

Green and Kelly (2005)

The State Water Board's Green and Kelly decision (WQ 2005-0002-UST) applies the above policies to a specific LUFT site in Eureka and concludes that the site should be closed, despite the fact that relevant groundwater quality objectives were not met at the time. The key findings of this decision relate to interpretation of Resolution No. 92-49. In the decision, State Water Board concluded that the adverse effect on shallow groundwater would be minimal and localized, and there would be no adverse effect on the groundwater in deeper aquifers, given the physical and chemical characteristics of the petroleum constituents, the hydrogeologic characteristics of the site and surrounding land, and the quantity of groundwater and direction of groundwater flow. In addition, the potential for adverse effects to beneficial uses of groundwater is low, given that that nearby, up-gradient water supply wells are not being used an based on evaluation of (2) the current and potential future uses of groundwater in the area; (3) the potential for health risks caused by human exposure; (4) the potential damage to wildlife, crops, vegetation, and physical structures; and (5) the persistence and permanence of potential effects, (i.e., the environmental fate of the remaining, residual hydrocarbons in site soil and groundwater). State Water Board further concluded that a level of water quality less stringent than background is unlikely to have any impact on surface water quality for these same reasons.

Complete details can be found at:
www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/wqo05.shtml

State Water Board December 1995 Memorandum

In a December 8, 1995, memorandum to Regional Water Board Chairpersons, Executive Officers, and Local Oversight Program Agency Directors titled "LLNL Report on Leaking Underground Storage Tank Cleanup," State Water Board Executive Officer Walt Pettit encouraged those agencies to (1) aggressively close low-risk LUFT sites that only affect soil ("soil only cases") and (2) shift from active cleanup to monitor-only at other low-risk LUFT sites. The memorandum cited the findings of the 1995 Lawrence Livermore National Laboratory (LLNL) report "Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks" in support of this recommendation.